

Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.

U.S. DEPARTMENT OF AGRICULTURE



FARMERS' BULLETIN



594

Contribution from the Office of Markets, Charles J. Brand, Chief.

June 4, 1914.

SHIPPING EGGS BY PARCEL POST

By LEWIS B. FLOHR, *Scientific Assistant.*

INTRODUCTION.

There is a most active, nation-wide interest in methods of eliminating waste and expense in getting food products from the farm to the consumer. This is a natural result of prevailing high prices to the city buyer and low net returns to the grower. The farmer has lost much of his old-time interest in growing larger, better crops at greater expense, which frequently bring him lower prices and smaller returns, or even losses, without reducing prices to the consumer.

There are many products which are ready for use when they leave the farm; to a considerable extent these can be marketed direct by the farmer to the consumer. This will obviate the necessity for concentrating any given product in large quantities in storage or marketing centers, save the cost incident to this concentration and consequent redistribution, and get the product to the consumer in a fresher, better condition. The parcel post offers a channel or means for such marketing.

The Postmaster General has done much to popularize the parcel post, and a great deal has been said in the public press in regard to its utilization in establishing direct business intercourse between country and city. The Office of Markets, in cooperation with officials of the Post Office Department, has conducted an extensive study of the possibilities of marketing various farm and food products by parcel post, with a view to promoting direct dealing when practicable. The work of shipping eggs has progressed to a point where definite conclusions based on experimental data can be stated. More than seven hundred dozens of eggs have been shipped experimentally through the mails, from various points, under various conditions, and in various different types of containers, without undue loss, showing that it is un-

¹ This bulletin presents conclusions from recent investigations made in cooperation with the Post Office Department. It contains matter which at the present time is arousing considerable public interest and furnishes information as to the use of the parcel post as a channel of communication between the producer and consumer which will prove of value to every postmaster as well as to the patrons of their offices.



doubtedly a feasible and practical method of transporting eggs. This is true both as regards the cost of shipment and the condition of the eggs on reaching the consumer's kitchen.

While it is probable that for some time to come the great bulk of eggs which come from distant producing territory will be shipped by other methods, it is no doubt true that many cities can be supplied with a considerable portion of their fresh eggs from within the first and second zones by parcel post to the advantage of both producer and consumer. By such direct contact the producer should secure somewhat better prices for his eggs than are realized by present methods of marketing, and the consumer should obtain a fresher quality at no increased cost, or, frequently, even at a reduction in price. The producer who does not have satisfactory marketing facilities may find in the parcel post a means of solving his egg-marketing problems. This applies especially to the man whose flock is so small that he can not make case shipments, i. e., shipments in the regular 30-dozen-size egg case.

SUMMARY OF RESULTS OF EXPERIMENTAL SHIPMENTS.

Four hundred and sixty-six shipments were made in the experiments. They comprised a total of $760\frac{1}{2}$ dozens, or 9,131 eggs, in lots of from 1 to 10 dozen each. The number of eggs broken was 327, or slightly less than 3.6 per cent of the whole number. Of these, 209 eggs, or slightly less than 2.3 per cent, were broken too badly to use; the remaining 118 were usable. If 91 eggs broken in parcels known to have received violent usage be eliminated, the breakage resulting in loss is less than 1.3 per cent.

The instructions issued by the Post Office Department for the handling of fragile mail matter (which includes eggs) are carefully drawn and quite ample. If all employees of the postal service could be educated to observe the instructions faithfully the breakage could be reduced to a negligible minimum. This presupposes proper preparation for mailing.

These experimental shipments were made over various routes and distances, including not only local shipments over short routes but points as far away from Washington as Minneapolis, Minn., and the Rocky Mountains. They began in October, 1913, and extended to February, 1914, thus including the holiday rush. The shipments have been sufficiently numerous to justify the conclusion that eggs can be shipped by mail satisfactorily under the existing postal provisions, provided these are rigorously observed.

THE EGGS.

Parcel post is a new medium for marketing eggs and its successful use imposes the need of greater care on the producer. Only such eggs should be shipped as are produced by healthy fowls kept under proper

sanitary conditions and supplied with sound, wholesome feed. If possible only nonfertile eggs should be produced for market; fertile eggs deteriorate rapidly and are the cause of much loss. A broody hen on the nest, or exposure to a temperature from other sources sufficient to start incubation, causes all such eggs to be rejected when they are candled. Eggs should be cared for carefully, beginning with keeping the fowls under such conditions that the eggs will not be soiled in the nest by mud from the feet of the hens or otherwise; they should be gathered at least once a day (twice will be better) and should be stored in a well-ventilated place, which must be kept as cool as possible. Eggs intended for high-class trade should never be washed, as washing removes the natural mucilaginous coating of the egg and opens the pores of the shell. Eggs which have been soiled should be kept for home use or disposed of otherwise than to a parcel-post customer.

In spite of the greatest care it will sometimes happen under ordinary farm conditions that an occasional bad egg will appear among those sent to market. It would be wise to candle every egg



FIG. 1.—This cut illustrates a homemade candling outfit, consisting of small lamp and corrugated pasteboard box.

shipped. Candling is "the process of testing eggs by passing light through them so as to reveal the condition of the contents." A simple candling outfit may be made of an ordinary pasteboard box sufficiently large to be placed over a small hand lamp after the ends have been removed. The box should have a hole cut in it on a level with the flame of the lamp. Several notches should be cut in the edges on which the box rests, to supply air to the lamp. The box should be sufficiently large to prevent danger from catching fire. The box shown in figure 1 is made of corrugated pasteboard; ordinary pasteboard will serve the purpose. Candling is done in the dark, or at least away from strong light, and each egg is held against the hole in the side of the box, when its condition may be seen. An egg that shows any defect should not be marketed.

Only first-class eggs can be successfully marketed by parcel post. The shipping of bad eggs would not only cause dissatisfaction or even the loss of the customer, but if persisted in would doubtless be construed as a violation of the pure-food law.

Persons desiring to build up a business of marketing eggs by this method should hatch their chicks early enough to have them begin laying in the fall season when eggs are scarce and high priced. This will also result in more evenly distributed production throughout the year.¹

PRESERVING EGGS IN WATER GLASS.

In the spring, when they are plentiful, eggs may be preserved for home use in a solution of water glass, so that those laid during the fall and winter season may be available for marketing. A standard grade of water glass can be obtained at drug stores for 75 cents per gallon, if bought in moderately large quantities. Each quart of water glass should be diluted with 10 quarts of water, which has been boiled and cooled. Only strictly fresh, newly laid eggs should be placed in the solution. Stone jars or crocks should be used. The eggs may be packed in these and the solution poured over them, or the eggs may be placed daily in the solution by putting them down in it carefully by hand so as to avoid breaking or cracking them. The solution will not injure the hands. The jars should be put where they are to be kept before the eggs are placed in them, and should not be moved, because breakage and loss may result. The water-glass solution may become cloudy, but this is a natural condition and should cause no alarm.

Eggs thus kept are good for all purposes, but the shells break rather easily in boiling. This trouble can be prevented by puncturing the end of the shell with a pin or needle just before boiling. Perhaps an occasional customer will be willing to buy eggs preserved in water glass, but they should be sold for just what they are and at a price mutually agreed upon by the producer and consumer.

¹ The following publications prepared by the Bureau of Animal Industry, Department of Agriculture, will be helpful to poultry raisers:

Farmers' Bulletin 51, Standard varieties of chickens.

Farmers' Bulletin 236, Incubation and incubators.

Farmers' Bulletin 287, Poultry management.

Farmers' Bulletin 445, Marketing eggs through the creamery.

Farmers' Bulletin 452, Capons and caponizing.

Farmers' Bulletin 528, Hints to poultry raisers.

Farmers' Bulletin 530, Important poultry diseases.

Farmers' Bulletin 562, The organization of boys' and girls' poultry clubs.

B. A. I. Circular 176, A system of poultry accounting.

These publications may be obtained free from the Division of Publications, Department of Agriculture, Washington, D. C.

CONTAINERS.

Experience has shown that frequently parcels are mailed in containers not sufficiently strong and inadequately prepared and protected. These are frequently the cause of complaint. The producer who desires to make use of the parcel post should provide such containers or carriers as meet the requirements of the postal authorities, and such as will carry the particular product in a manner satisfactory to the consumer. Otherwise he will lose his customer, and should the container or carrier not be sufficiently stout to stand the service it

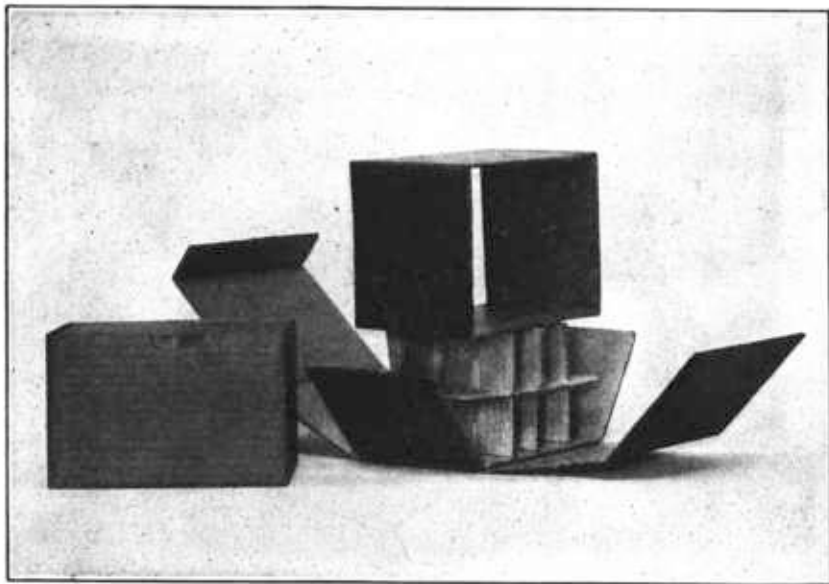


FIG. 2.—This illustration shows two 2-dozen-size corrugated-pasteboard egg boxes. The one to the left is closed. The other is taken apart to show construction. The two inner pieces of the case fold around the egg fillers and slip into the outer case shown on top. In filling, the box is not taken completely apart but only opened up properly.

will not be worth returning as an “empty” to use again, if intended to be returned.

The postal requirements for mailing eggs for local delivery are as follows:

Eggs shall be accepted for local delivery when so packed in a basket or other container as to prevent damage to other mail matter.

This embraces all collection and delivery service within the jurisdiction of the postmaster of the office where the parcel is mailed.

Eggs to be sent beyond the local office are to be prepared for mailing as follows:

Eggs shall be accepted for mailing regardless of distance when each egg is wrapped separately and surrounded with excelsior, cotton, or other suitable material and packed

in a strong container made of double-faced corrugated pasteboard, metal, wood, or other suitable material and wrapped so that nothing can escape from the package. All such parcels shall be labeled "Eggs."

Eggs in parcels weighing more than 20 pounds shall be accepted for mailing to offices in the first and second zones when packed in crates, boxes, buckets, or other containers having tight bottoms to prevent the escape of anything from the package and so constructed as properly to protect the contents. Such packages to be marked "Eggs—This side up," and to be transported outside of mail bags.

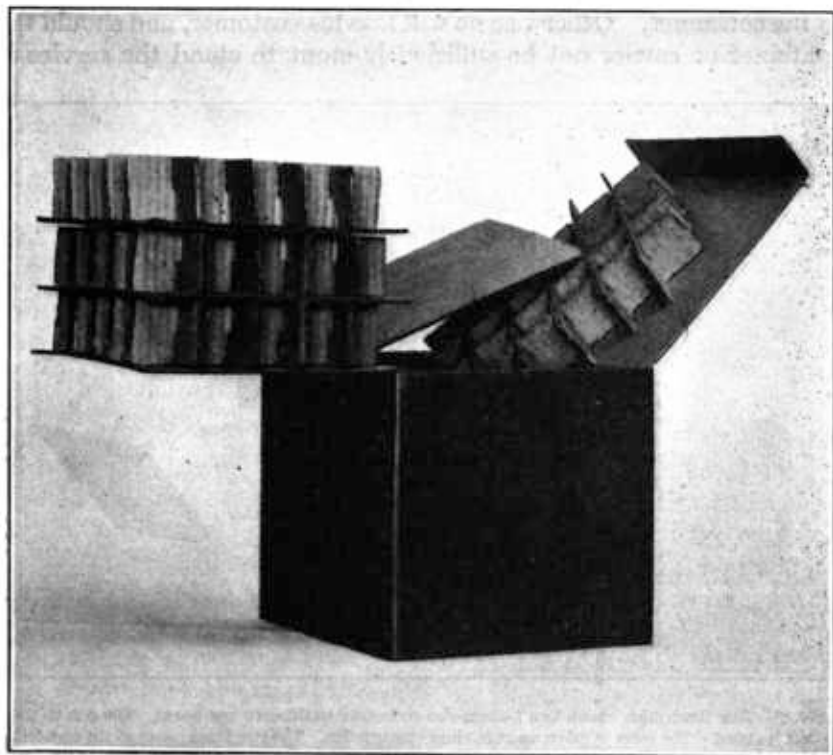


FIG. 3.—This picture shows a 10-dozen-size box of corrugated pasteboard. The eggs are placed in four layers of 30 each.

The ideal container must be simple in construction, efficient in service, and cheap. Simplicity of construction is essential so that it may be assembled and packed or filled readily and rapidly. Any part which is to be opened should be so marked or notched as to indicate the part to pull up or out. It must be efficient in service to insure satisfaction to the shipper and to the receiver, and also to prevent damage to other mail matter by possible breakage and leakage. It must be inexpensive or it will defeat the object to be attained, namely, a reduction of the cost of handling between producer and consumer.

Trials of many different styles and makes of containers or cartons for shipping eggs by parcel post were made. Quite a number proved

satisfactory in extended trials. A few of them are illustrated in the following pages for the purpose of showing in a general way their appearance and construction. Any container which meets the postal requirements and which serves the purpose properly can be used.

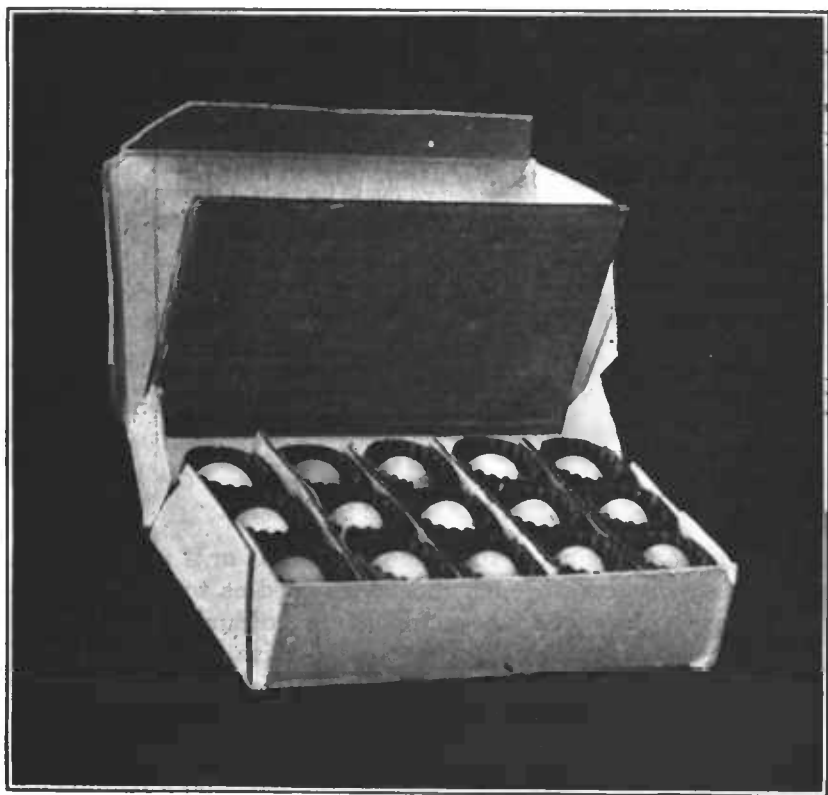


FIG. 4.—This photograph shows a fiber-board box fitted with corrugated-pasteboard lining and fillers, or partitions, of the same material. Each egg has a wrap of one-faced corrugated pasteboard. The lining is raised to show the eggs; it shows dark against the lid.

INFORMATION RELATIVE TO SECURING CONTAINERS.

The experiment stations in the various States have information as to containers for parcel-post shipments of eggs, in consumer-size lots, and persons desiring information of this kind should not address the United States Department of Agriculture, but should address the director of the experiment station in their own State. The following list gives the post-office address of each station:

Alabama:
Auburn.
Tuskegee Institute.
Alaska: Sitka.
Arizona: Tucson.
Arkansas: Fayetteville.

California: Berkeley.
Colorado: Fort Collins.
Connecticut:
New Haven.
Storrs.
Delaware: Newark.

Florida: Gainesville.
 Georgia: Experiment.
 Guam: Guam.
 Hawaii: Honolulu.
 Idaho: Moscow.
 Illinois: Urbana.
 Indiana: Lafayette.
 Iowa: Ames.
 Kansas: Manhattan.
 Kentucky: Lexington.
 Louisiana: Baton Rouge.
 Maine: Orono.
 Maryland: College Park.
 Massachusetts: Amherst.
 Michigan: East Lansing.
 Minnesota: University Farm, St. Paul.
 Mississippi: Agricultural College.
 Missouri: Columbia.
 Montana: Bozeman.
 Nebraska: Lincoln.
 Nevada: Reno.
 New Hampshire: Durham.
 New Jersey: New Brunswick.

New Mexico: State College.
 New York:
 Geneva.
 Ithaca.
 North Carolina: Raleigh.
 North Dakota: Agricultural College.
 Ohio: Wooster.
 Oklahoma: Stillwater.
 Oregon: Corvallis.
 Pennsylvania: State College.
 Porto Rico: Mayaguez.
 Rhode Island: Kingston.
 South Carolina: Clemson College.
 South Dakota: Brookings.
 Tennessee: Knoxville.
 Texas: College Station.
 Utah: Logan.
 Vermont: Burlington.
 Virginia: Blacksburg.
 Washington: Pullman.
 West Virginia: Morgantown.
 Wisconsin: Madison.
 Wyoming: Laramie.

PACKING EGGS FOR SHIPMENT.

The eggs for packing, if the trade requires it or if it can be done without any disadvantage, should be assorted as to size and color. Eggs irregular in shape, those which are unusually long or thin-shelled, or which have shells otherwise defective, should be kept by the producer for home use, so that breakage in transit may be reduced as much as possible.

Regardless of the particular style or design of the container used, each egg should be wrapped according to parcel-post requirements (see p. 5), so that it will not shake about. Square-block tissue paper, which comes in packages of 500 sheets each, or soft wrapping paper, should be used around each egg. Should the eggs be able to shake about in the container, the danger of breakage in handling is increased. For packing of parcels exceeding 20 pounds see page 6.

From the experimental shipments that have been made, it is clear that the packing should be attended to carefully. A little practice will enable the packer to do his work rapidly.

THE APPEARANCE OF PARCELS.

Not only should the eggs be of the best appearance possible, but the general appearance of the parcel should be neat and attractive. A container badly stained from broken eggs should not be used again. Better a little less profit on a shipment of eggs because of having to use a new container than a displeased customer, who, displeased a few times, will be no customer at all.

THE WEIGHT OF EGG PARCELS.

Average hens' eggs will weigh about $1\frac{1}{2}$ pounds to the dozen, or 2 ounces apiece. The weight of a single dozen of eggs in a carton properly packed and wrapped for mailing will run from 2 to 3 pounds, depending on the nature of the particular container, the size of the eggs, and the packing and wrapping used. If the container be a very light one and the eggs small, the parcel may fall within the 2-pound limit, and the postage therefore within the first and second zones, or 150-mile limit, would be 6 cents. But most parcels containing a dozen eggs will exceed 2 pounds but will not reach 3; therefore the postage on them will be 7 cents within the first and second zones. A parcel containing 2 dozen eggs will add perhaps 2 cents to the postage, though sometimes only 1 cent, depending on the nature of the container and the packing and wrapping.

It is important to observe that the larger the parcel (within the size and weight limits) the cheaper is the postage, as the first pound of every package costs 5 cents within the first and second zones, while each additional pound, up to 50, costs but 1 cent; so that while a 1-pound parcel would cost 5 cents postage, a 2-pound parcel would cost only 6 cents or 3 cents a pound. A 20-pound parcel would cost 24 cents, or $1\frac{1}{5}$ cents per pound, and a 50-pound parcel would cost 54 cents, or but $1\frac{2}{5}$ cents per pound.

SHIPPING EGGS FOR HATCHING PURPOSES.

In preparing for mailing eggs intended for hatching purposes, great care should be taken to see that each egg is wrapped with sufficient material to hold it snugly and yet not too rigidly in its compartment. The outside of the parcel should be labeled "Eggs for hatching." Special attention should be given these shipments by all postal employees, particular care being exercised to keep them away from excessive heat or cold.

The person receiving eggs in this way for hatching should place them on the small end in bran or something of the kind for 24 hours, in order that the germs may thoroughly settle before incubation is started.

SUPPLIES FOR SHIPPERS.

As the postal regulations require that every parcel must have on it the name and address of the sender, preceded by the word "From," each person shipping eggs by parcel post will find it convenient to have a rubber stamp similar to the following:

From
William Smith,
Rural Corners, Pennsylvania.

The stamp and an inking pad will cost about 50 cents.

The postal regulations also require that parcels containing eggs are to be marked "Eggs." For this purpose a rubber stamp having letters one-half inch high and reading "Eggs" should be used to stamp this word on each side of the parcel. Thus the nature of the contents will be apparent no matter which side happens to be in view.

The sender will soon learn how much postage each size of parcel requires. Should he desire them, parcel-post scales can be secured at reasonable prices. There are many times when scales are needed in the farm home, and the parcel-post type will serve these other purposes also.



FIG. 5.—This illustration shows 20-pound parcel-post scales, which will be found quite convenient for many household purposes requiring a small scale.

They can be had for \$2.50 and weigh up to 20 pounds. (See fig. 5.) "Union" scales having both a platform and a scoop attachment and weighing up to 200 or 300 pounds can be had for from \$6 to \$12, if desired.

Under a subsequent heading entitled "The wrapping and addressing of parcels" paper and twine or cord for tying are discussed.

Boxes, wrapping paper, and twine should be bought in as large quantities as possible (say a year's supply at a time), so that lower prices may be obtained. With proper organization it will be possible for several farmers to join in ordering

containers by the thousand and other supplies in correspondingly large quantities.

THE SIZE OF PARCELS.

In arranging with the customer as to the size and frequency of shipments it is wise to take into consideration the fact that the larger the parcel sent (i. e., the more eggs sent in one parcel) the cheaper will be the postage per dozen. This is more fully discussed under the heading "The weight of egg parcels." It would be much more economical for the family that uses, say, four dozens a week to have them sent in a 4-dozen parcel once a week than to have them sent in two 2-dozen parcels at different times during the week; and the eggs, if produced under proper conditions and properly kept,

would not deteriorate to any appreciable extent in that length of time. The same principle would hold good regardless of quantity used.

Considering the cost of the container and the postage, there will be no economy in a consumer buying eggs for food by parcel post in less than 2-dozen lots. There may be exceptions to this in the case of invalids, in the case of persons who desire strictly newly-laid eggs, even though they do cost more, and, occasionally, for other reasons.

THE WRAPPING AND ADDRESSING OF PARCELS.

The appearance of the parcel depends largely upon the manner in which it is wrapped. Odds and ends of paper and twine are not desirable for this purpose. Every producer who aims to make a business of shipping eggs by parcel post should procure a supply of good, tough paper of the proper size to wrap his parcels, and also good, strong, though not too heavy, cord or twine that stretches very little.

No matter what the design of the container there is always danger, should the parcel be subjected to excessive pressure or violence in any form, that the eggs may be broken and the contents leak out. In a large number of experiments it was found that when parcels were properly wrapped with good paper, even though there were quite a number of broken eggs in the parcel, in only a few cases did any leakage of the contents damage other mail matter.

It will be a simple matter, especially if there are children in the home who can learn to attend to this part of the work, to wrap the parcels both rapidly and neatly. A little attention to the best manner of folding the paper in completing the wrapping will result in a securely and neatly covered package. The foregoing applies to parcels weighing less than 20 pounds—parcels exceeding 20 pounds need not be wrapped. (See p. 6.)

To insure prompt delivery the address should be plainly written on the wrapping of the parcel. Much mail matter is delayed or altogether fails to reach its destination because of incomplete or poorly written address.

INCLOSURES.

An inclosure stating the number of eggs and the price may be placed in the parcel, but no message of any kind may be included, as that would subject the package to the first-class postage rate.

UNPACKING EGGS WHEN RECEIVED.

The person receiving the eggs should unpack them immediately to see if any have been broken. It might be desirable to have instructions printed on the outside of the container, and the following are suggested:

"Please unpack and examine at once to see condition and to give proper attention."

Whether or not this is printed on the container, the shipper should have a distinct understanding with the consumer that this is to be done with every parcel received, so that information as to any unsatisfactory condition may be promptly obtained.

THE RETURN OF EMPTY CONTAINERS.

Many shippers will doubtless find it desirable and economical to have the customer save the containers and return them after a sufficient number have accumulated. When so returned the postage on empty cases still in usable condition is less than the cost of new ones. The consumer should receive credit for the postage required to return them. Many of the containers are made in "knocked-down" style, i. e., to take apart and fold up so that they can be made into a much smaller package or parcel. Containers which are knocked down to be returned should be packed in such a way that there will be no edges or points projecting without support or protection, as such projections are likely to be broken or crushed in the mails.

The cost of the container is necessarily included in the price of the eggs to the consumer. It is therefore to the interest of the consumer to take proper care of containers and to save for return all that are in usable condition. Since the return of containers will have some effect on the price of the eggs, the proper spirit of thrift should cause the consumer to take good care of all returnable empties and to send them back in accordance with whatever agreement or understanding may obtain between the producer and himself.

METHODS OF BRINGING PRODUCER AND CONSUMER TOGETHER.

One of the big problems to the average farmer is how to secure customers who desire eggs direct from the farm. In other words, the question is, "How shall I come in contact with the person who wants my product?"

An occasional contact may be secured through acquaintance in the city or town where a parcel-post market is sought. Contact might also be secured by a small advertisement in a city or town paper, stating the number of eggs available per week. In France city dwellers make these business arrangements in summer when in the country on their holiday. Consumers who will not take trouble about these relatively small things should not complain of the high cost of food products.

Additional contact ought to be more easily obtained than the original contact, for the simple reason that if a producer supplies satisfactory eggs the person receiving them is almost sure to obtain other customers for him by speaking well of his product. It might be said in this connection that the reputation a parcel-post shipper makes with his first customers will very largely determine his success or failure in marketing by this method.

The matter of holding business once secured and securing additional business is of considerable importance. One of the serious drawbacks of ordinary farming is the great irregularity of income during the year. The development of a regular parcel-post business in eggs and the many other products that may be marketed by this means will increase the income and distribute it somewhat better throughout the year. Once a customer has been secured every endeavor should be made to furnish strictly high-grade goods and to deal fairly, promptly, and satisfactorily, so that the customer may be retained. Once a reputation is established for products of high quality and for fair dealing, the holding of customers and securing new ones will be a comparatively simple matter.

THE FIXING OF FAIR PRICES.

As the object of parcel-post dealing is to get somewhat better prices for the producer and better products at the same price, or the same class of products at lower prices, for the consumer, the question of arriving at prices fair to both is important. It is also difficult.

It is not likely, at least not for some time to come, that eggs will be marketed so largely by parcel post that the ordinary marketing quotations can not be depended upon in arriving at prices.

It ought to be a comparatively easy matter for a producer and a consumer to agree upon a stipulated market quotation as the basis for determining the price to be paid. A consumer may desire 5 dozen eggs per week, the price to be an agreed upon number of cents per dozen above the wholesale quotation for the best grade of eggs on the market that week. The necessary relations in this matter can be maintained only by scrupulous honesty and well-founded mutual trust.

CONTRACTS OR AGREEMENTS BETWEEN PRODUCERS AND CONSUMERS.

The nature of the agreement between the producer and the consumer, whether reduced to writing or not, should be made to suit the circumstances and must be fair to both. Perhaps the first agreement made should be in writing; but later, if mutual confidence and trust has been thoroughly established, the contract may be verbal.

The matter of frequency and method of payment can be arranged in various ways. For the first agreement term, which may be a year or less, cash in advance might be satisfactory, until a definite system of orders and payments is established.

The agreement should specify:

- (1) The names of the parties to the agreement.
- (2) The length of time during which the agreement is to be in force.
- (3) The number of eggs to be shipped each week during the time the contract runs, and also the frequency of shipment and the number in each shipment.

(4) Price to be paid during the time of the contract, together with the base on which the price is fixed.

(5) Method of adjusting claims for broken or bad eggs.

(6) The consumer should open boxes properly (without cutting or tearing), and should take proper care of them and return them by mail as desired by the producer.

(7) Frequency of payment and manner of remitting; postage paid on empties returned to the producer to be credited to the consumer on next bill rendered.

For the reason that eggs are in very abundant supply in the spring season and in very short supply in the fall and early winter season, the contract should specify quantity to be supplied each week throughout the year. The producer can not expect the consumer to take all the eggs that are to be marketed in the season of greatest production, nor can the consumer expect to get as many eggs as he desires in the season of lowest production; and these two extremes should be thoroughly understood and specifically mentioned in the agreement, so as to have no misunderstanding regarding them.

In the season of short supply the consumer might be willing to try some eggs preserved in water glass (see p. 4), thereby relieving the situation.

The producer in making an agreement with a consumer should undertake to stand good for eggs lost by breakage in shipping. Should this provision in the agreement be abused by any consumer it might be sufficient reason to refuse to again contract with that consumer, and of course satisfactory evidence of unusual breakage would need to be produced, and it might even be necessary to locate the cause of the breakage in the mails.

The following is a suggested form of agreement:

THIS Article of Agreement made this day of, 1914, by and between JOHN DOE, of Doeville, Doe County, Va., party of the first part, and RICHARD ROE, of 298 Bahama Avenue, Washington, D. C., party of the second part,

WITNESSETH, That for a price of cents (....) per dozen above the wholesale price for best eggs quoted in the "Blankville News" on Tuesday of each week, the party of the first part agrees to supply the party of the second part four (4) dozens of eggs weekly for the remainder of the calendar year 1914, each weekly consignment to be shipped in one parcel.

Payments are to be made every four weeks on bill rendered by party of the first part to party of the second part after making proper allowance for eggs broken beyond use and for eggs otherwise unusable. The party of the second part is to receive credit for postage on empties returned and agrees to take proper care of containers, open them properly (without cutting or tearing), and to return them to the party of the first part as party of the first part may desire.

If party of the first part require it, party of the second part agrees to return containers with broken eggs in place if he claims they are damaged beyond use.

PARCEL POST ZONES.

The United States is divided into "units," each one of which is numbered, as illustrated by the accompanying section of map. (See fig. 6.) The center of each unit constitutes the zone's center for all post offices within that unit. The first zone consists of any given

unit together with all the adjoining units, even though they but touch at the corner. The second zone embraces all those units within a radius of 150 miles from the center of any given unit, and the whole of any unit, any part of which is touched by this 150-mile boundary line, is considered entirely within that zone.

There is a separate zone map for each unit. The accompanying illustration shows a section of the map for the unit in which Washington is located. The second circle shows the nominal boundary of zone 2; but owing to the fact that all units which are touched by this boundary line fall entirely within the second zone, the units which are bounded by the heavy line (outside the second curved line) are entirely within zone 2. This principle applies to all other zones; that is, any unit which is touched at any point by the boundary of a given zone lies wholly within that given zone and is so considered for the purposes of the parcel-post service.

Particular description is here given of the first and second zones because of the fact that the great bulk of the shipping of farm products by parcel post is likely to be done within these zones. The rate can be ascertained readily from the accompanying tables.

Local parcel post rates.

Pounds.	Postage.	Pounds.	Postage.	Pounds.	Postage.	Pounds.	Postage.	Pounds.	Postage.
	<i>Cents.</i>		<i>Cents.</i>		<i>Cents.</i>		<i>Cents.</i>		<i>Cents.</i>
1	5	11	10	21	15	31	20	41	25
2	6	12	11	22	16	32	21	42	26
3	6	13	11	23	16	33	21	43	26
4	7	14	12	24	17	34	22	44	27
5	7	15	12	25	17	35	22	45	27
6	8	16	13	26	18	36	23	46	28
7	8	17	13	27	18	37	23	47	28
8	9	18	14	28	19	38	24	48	29
9	9	19	14	29	19	39	24	49	29
10	10	20	15	30	20	40	25	50	30

Fifty pounds is the weight limit for local delivery. These rates are 5 cents for the first pound and 1 cent additional for each 2 pounds or fraction thereof; they apply to any parcel-post matter that does not go beyond the jurisdiction of the mailing office.

First and second zone parcel post rates.

Pounds.	Postage.	Pounds.	Postage.	Pounds.	Postage.	Pounds.	Postage.	Pounds.	Postage.
	<i>Cents.</i>		<i>Cents.</i>		<i>Cents.</i>		<i>Cents.</i>		<i>Cents.</i>
1	5	11	15	21	25	31	35	41	45
2	6	12	16	22	26	32	36	42	46
3	7	13	17	23	27	33	37	43	47
4	8	14	18	24	28	34	38	44	48
5	9	15	19	25	29	35	39	45	49
6	10	16	20	26	30	36	40	46	50
7	11	17	21	27	31	37	41	47	51
8	12	18	22	28	32	38	42	48	52
9	13	19	23	29	33	39	43	49	53
10	14	20	24	30	34	40	44	50	54

The weight limit within the first and second zones is 50 pounds. These rates apply to all points within the first and second zones, there being no difference in rates between these two zones. A simple rule to determine the postage on any parcel not going beyond the second zone is to add 4 to the number of pounds, and the resulting number is the cents' postage required. Example: A parcel weighs 13 pounds and 11 ounces; this will require postage on 14 pounds (as any fraction of a pound is considered a full pound); $14 + 4 = 18$ cents postage.

The weight limit for the third, fourth, fifth, sixth, seventh, and eighth zones is 20 pounds. Any information desired as to rates, zones, and the like can be obtained from any post office.

MEASUREMENT LIMITS FOR PARCEL-POST MAIL MATTER.

In addition to the weight limits shown in connection with the foregoing postage tables, there is a measurement limit, which is the same for all zones. This limit is that the girth (measurement around) and the length added must not exceed 72 inches. For example, a parcel 10 inches square (40 inches around) and 32 inches long would be just up to the limit. So also would a parcel 12 inches square (48 inches around) and 24 inches long. A parcel cubical in shape and 14 inches in each dimension would measure 56 inches around, and to this would be added 14 inches for length, making 70 inches, or 2 inches less than the limit.

THE PRACTICABILITY AND UTILITY OF THE PARCEL POST IN EGG MARKETING.

Under the present method the general farmer, or in most cases the wife, sells the surplus eggs to the local storekeeper, taking their value out in trade. The parcel post offers an opportunity for a cash outlet at better prices. It should prove a valuable help, especially to those farms that are located unfavorably as regards a consuming market. It is not too much to say that shipping by parcel post has been demonstrated as a practical proposition when properly conducted.

To send a 2-dozen-size parcel would cost about as follows: For container and wrapping, 8 cents; for postage, 9 cents—or a total of 17 cents, which would be $8\frac{1}{2}$ cents a dozen marketing cost. Marketing a 5-dozen parcel would cost about 13 cents for container and wrapping and 14 cents postage, or a total of 27 cents; a 10-dozen lot would cost about 22 cents for container and wrapping and 25 cents postage, or a total of 47 cents.

The postage rates here used are those within the first and second zones. The rates to the third and farther zones are higher, and the advantages of marketing by parcel post consequently less.

The foregoing figures include the cost of a new container each time. The experiments show that containers from the 4-dozen size up will stand on an average two to four trips quite satisfactorily. Con-

tainers for smaller lots will stand on an average from three to five trips. As the postage cost of returning containers is considerably less than the price of new ones, the average expense for containers can be materially reduced from the figures quoted.

DISADVANTAGES OR DIFFICULTIES IN MARKETING EGGS BY PARCEL POST.

If it is kept in mind that it takes a few days for eggs to reach the consumer, a regular supply of eggs can be had for use at all times. The possibility of broken eggs and the consequent adjustment of payment may seem to be a disadvantage, but if properly provided for in the agreement (see p. 14) it need not be. The matter of arriving at equitable prices may seem to be difficult, but this need not be a drawback. The matter of fixing fair prices is discussed on page 13.

Some farmers may be so situated that they already have a satisfactory market for their eggs. Others may desire to have a parcel-post market during a part of the year, but may dispose of them otherwise during the remainder of the year. The local market may also at times afford a more satisfactory price than that received under a parcel-post selling agreement. There may also be producers of large quantities of eggs who find express transportation cheaper than parcel post.

The necessity of securing proper containers and of properly wrapping and packing the eggs for mailing, as well as the care that needs to be exercised in shipping only strictly first-class eggs, may seem to some to be both disadvantageous and difficult, but if a parcel-post market is to be developed, it will require care and attention to get it properly established and to keep it going successfully.

DIRECT MARKETING OF LARGER QUANTITIES OF EGGS THAN PRIVATE FAMILIES REQUIRE.

The foregoing discussion applies especially to shipments of eggs for family consumption. It is quite likely that many producers will desire a larger outlet than is afforded by private families. These may be shipped in containers such as described by postal regulations. (See p. 6.) They must come within the weight and measurement limits, however. The present 30-dozen commercial case exceeds the weight and measurement limits and would have to be forwarded by express. The express companies are now paying special attention to small shipments of food products, and furnish prompt and efficient service.

Should any individual farmer not have enough eggs to ship alone, a good method would be to have a number of neighboring farmers club together for the purpose of shipping eggs and secure a purchaser in the person of an hotel, restaurant, or lunch-room proprietor, or a

retail grocer in some town or city. The eggs from each farm should be packed in 1-dozen size cartons or fillers, which would take the place of the ordinary filler of the standard 30-dozen size egg case. These cartons should have stamped on them the name and address of the producer; or, instead of the name and address, a number could be assigned to each farm for purposes of identification, and each carton should be sealed so that any complaint in regard to quality can be traced back to the individual producer. This is necessary in order to protect members of the club from complaints of delinquency not justly attributable to them. Further information will be given by the Office of Markets to any group of farmers desiring to organize a cooperative egg club.

Shipping by express presupposes that the producers concerned are within reasonable distance of express service, otherwise the expense of transporting the eggs to the express office might be prohibitive.

It is hoped that these methods may enable the producer to realize better prices, and that at the same time the consumer will secure a fresher product. Eggs handled and shipped as described in these pages will be fresher and in better condition than ordinary country-store or huckster-collected eggs.

The average farmer pays scant attention to egg and poultry production, usually leaving matters relating thereto to his wife. He should not consider them beneath his notice. Properly managed, this branch of farm industry may prove quite profitable. Indeed, it is not unlikely that a careful keeping of the cost of producing corn on many farms would lead to the conclusion that the family treasury had profited more by the activities of the hen than by raising corn.

OPPORTUNITY OF EXTENSION OF PARCEL POST MARKETING TO OTHER PRODUCTS.

It is quite possible that once having secured a parcel-post market for eggs, many farmers having other commodities not readily salable at home may open up markets for them in the same way. Methods of arriving at prices would be the same, the producer advising the consumer as to the commodities—quantity and price. By this means a market may be found for many products which are not now being marketed, mainly for the reason that they are in the nature of by-products or small surpluses over the family's need which do not justify a special trip to market.

In addition to such things as may be by-products or surpluses over the family's need, there is quite a field of opportunity open for development in making a special effort to produce such things as town or city residents are anxious to obtain, and by proper attention quite a supplemental income could be built up by developing such business.

SUMMARY.

(1) In the experiments conducted in this study 760 $\frac{1}{2}$ dozens, or 9,131 eggs, were sent through the mails in 466 shipments of from 1 to 10 dozens each. The total breakage was 327 eggs; of these, 118 were only cracked or slightly broken and were usable, and 209 (or 2.3 per cent) were broken beyond use. Ninety-one eggs were broken because the parcels containing them were handled contrary to postal rules and regulations. Subtracting these, the loss was only 1.3 per cent. This shows the possibility of shipping eggs by parcel post with small loss, and indicates that eggs may be so shipped with safety if existing postal regulations are observed.

(2) Care should be exercised in the production of eggs so that they will be of as good quality as possible to begin with. The hens should be provided with proper quarters and fed on clean, wholesome feed. The production of nonfertile eggs reduces the losses materially. After gathering, the eggs should be kept carefully in the coolest and best ventilated place available.

(3) Trials of many styles and makes of containers were made; quite a number proved satisfactory. The addresses of manufacturers of containers can be obtained from the agricultural experiment stations in the several States.

(4) In selecting eggs for shipping by mail, thin-shelled and unusually long or irregular-shaped eggs should not be used. Each egg should be wrapped in sufficient paper to hold it snugly in its own individual compartment in the container. The container should be properly closed and carefully wrapped with good, tough wrapping paper and strong twine. The address should be plainly written to insure prompt delivery on arrival. The postal regulations require the name and address of the sender on the parcel also.

(5) If attention is given to the necessary details, as indicated in this bulletin, eggs can be shipped by parcel post to the advantage of the farmer. This method of marketing affords a means of increasing the fresh-egg business to the benefit of both the producer and the consumer, by marketing direct while the eggs are still in fresh condition.

(6) Farmers located out of reach of a satisfactory market or of the usual means of transportation can find in the parcel post a ready means of getting their eggs direct to a consuming market promptly and at prices that will justify the additional trouble involved in packing for mailing.

